STATE OF IOWA

BEFORE THE IOWA UTILITIES BOARD

IN RE: **REVIEW OF ELECTRIC INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES RULES [199 IAC CHAPTER 45]**	**DOCKET NO. RMU-2016-0003**

IPL STATEMENT OF POSITION ON PROPOSED RULE CHANGES – CHAPTER 45 AND COMMENTS ON PROPOSED FORMS AND PROCESSES

Interstate Power and Light Company (IPL), by and through undersigned counsel, and in reply to the Order Requesting Stakeholder Comment on Proposed Rule Change issued by the Iowa Utilities Board (Board) in this docket on July 22, 2016 and Order Requesting Comments on Proposed Forms and Processes on August 8, 2016 offering that interested persons could file comments on the revision of Chapter 45 of the 199 Iowa Administrative Code (IAC) regarding Electric Interconnection of Distributed Generation Facilities, submits the following comments and statement of position.

IPL suggests additional redline changes to the following sections and also provides some commentary for the Board's consideration within these sections:

Definitions. 199 IAC 45.1

Disconnection device

IPL concurs with the Board's proposed definition of "disconnection device," but also proposes the following edit to acknowledge that breakers often cannot be installed adjacent to meters and sometimes cannot provide a lockable visual disconnect:

> *"Disconnection device" means a lockable visual disconnect or other disconnection device, such as, but not limited to, a service disconnect, or gang operated main disconnect~~, or breaker~~ capable of disconnecting and de-energizing the residual voltage in a distributed generation facility.*

Draw-out type circuit breaker

IPL proposes removing the definition "draw-out type circuit breaker" to be consistent with the Board's proposed changes striking "draw-out type circuit breaker" in 199 IAC 45.3(2).

Scope. 199 IAC 45.2(1)

IPL concurs with the Board's proposed changes to this section. In addition, IPL proposes that potential impacts to electric systems not owned or operated by the interconnecting utility—for example, the transmission system—should be addressed. IPL proposes the following redline edit:

> *This chapter applies to utilities, and distributed generation facilities seeking to operate in parallel with utilities, provided the facilities are not subject to the interconnection requirements of an affected system, the Federal Energy Regulatory Commission (FERC), the Midcontinent Independent Transmission System*

Operator, Inc. (MISO), the Southwest Power Pool (SPP), the Midwest Reliability Organization (MRO), or the SERC Reliability Corporation (SERC).

Inspection and testing. 199 IAC 45.3

- IPL concurs with the Board's proposed changes to this section.
- IPL proposes the following suggested redline changes to 199 IAC 45.3(4)[1] provide additional clarity on, and access to, testing results:

  The operator of the distributed generation facility shall adopt a program of inspection and testing of the generator and its appurtenances and the interconnection facilities in order to determine necessity for replacement and repair. Such a program should include all periodic tests and maintenance prescribed by the manufacturer~~.~~; however, if the periodic testing of interconnection-related protective functions is greater than five years or not specified by the manufacturer, it should occur at least every five years. The operator, upon electric utility request, shall provide all test reports to the electric utility documenting the existing settings as well as the "as found" and "as left" test results. All interconnection-related protective functions shall be periodically tested and a system that depends upon battery for trip power shall be checked and logged. Complete maintenance records shall be maintained by the operator and be made available upon request by the electric utility. Representatives of the electric utility shall have access at all reasonable hours to the interconnection equipment specified in subrule 45.3(2) for inspection and testing with reasonable prior notice to the applicant. If the electric utility discovers the applicant's facility is not in compliance with the requirements of IEEE Standard 1547, or any part of the foregoing, and the noncompliance

[1] This section was edited on pages 14-15 of the Board's July 22 Order in Docket No. RMU-2015-0003.

adversely affects the safety or reliability of the electrical system, the electric utility may require disconnection of the applicant's facility until it complies with this chapter.

- IPL proposes to add a new subrule (d), similar to that included by the Board at 199 IAC 45.3(2)(f), which aids in enforcement of the requirements at 45.3(6).

  d. An interconnection customer failing to comply with the foregoing requirements may be disconnected as provided in 199 IAC 20. The disconnection process details shall be provided in individual electric utility tariffs or the interconnection agreement.

  IPL made a similar suggestion on page 7 of its Comments filed in Docket No. RMU-2016-0006 on August 18, 2016.

Level 4 review. 199 IAC 45.11

- IPL concurs with the Board's proposed changes to this section.
- In addition, IPL proposes language to provide transparency, if during its performance of the system impact study an affected system and its owner/operator will be impacted, the inclusion of the results of an affected system study should the affected system owner require supplementary review. IPL has provided additional language to the Interconnection System Impact Study Agreement which outlines the time and cost requirements of an affected system study should the affected system owner require such a study. The cost to perform the affected system study shall be that of the interconnection customer:

  45.11(6)(a) Interconnection system impact study.

  a. Unless waived or combined with other studies by agreement of the parties pursuant to paragraph 45.11(4) "a," an interconnection system impact study shall

be performed when either a potential adverse system impact is identified in the interconnection feasibility study, or an interconnection feasibility study has not been performed. Before performing the study, the utility shall provide the applicant an outline of the scope of the study and a nonbinding estimate of the cost to perform the study. The interconnection system impact study shall include any pertinent elements from among the following:

(1) A load flow study;

(2) Identification of affected systems and any subsequent affected system study;

(3) An analysis of equipment interrupting ratings;

(4) A protection coordination study;

(5) Voltage drop and flicker studies;

(6) Protection and set point coordination studies;

(7) Grounding reviews; and

(8) Impact on system operation.

b. An interconnection system impact study shall consider any necessary criteria from among the following:

(1) A short-circuit analysis;

(2) A stability analysis;

(3) Alternatives for mitigating adverse system impacts on affected systems;

(4) Voltage drop and flicker studies;

(5) Protection and set point coordination studies; ~~and~~

(6) Grounding reviews; and

(7) Results from the affected system study.

c. The final interconnection system impact study shall provide the following:

(1) The underlying assumptions of the study;

(2) The results of the analyses;

(3) A list of any potential impediments to providing the requested interconnection service;

(4) Required distribution upgrades; and

(5) A nonbinding estimate of cost and time to construct any required distribution upgrades.

IPL Comments on Forms and Processes

Pre-application Request Process And Supplemental Review Process

- IPL supports the addition of the pre-application process and supplemental review process; however, IPL currently does not have much of the data outlined in parts *3*(*a) – (m)* of the pre-application process readily available or those noted in parts *5(a) – (c)* of the supplemental review process. IPL is working toward solutions to improve its data collection ability through its geographic information system (GIS) distributed generation mapping development, collaboration with the Electric Power Research Institute (EPRI) to conduct system monitoring, and increased monitoring and communications with distribution system substations.

Interconnection Applications

- In order to fully understand customer ownership and operations of distributed generation (DG) systems, identification of applicant ownership structure is needed. This will allow IPL to identify whom to contact should there be energy power quality issues, as well providing additional insight into the composition of ownership

interests in DG systems in IPL's service territory. IPL suggests the following be added to all interconnection applications:

Applicant Ownership Interest

____Owner ____Lease____3rd Party PPA ____Other (Please explain):____

- IPL suggests adding a meter number field to compliment the Account Number of Facility Site (existing utility customer) to the applications. IPL has encountered numerous applications with multiple meters at the distributed generation facility site and adding the meter number will add clarity to the point of interconnection requested. IPL suggests the meter number field be added to all interconnection applications.
- IPL suggests adding a question to determine if the application is to expand an existing distributed generation facility. IPL has encountered a large number of existing customers expanding current solar PV arrays over the past year. IPL suggests that the following be added to all interconnection applications:

  Is this an expansion of a current distributed generation project: Yes__ No__
- IPL suggests Generation Facility Nameplate Rating also have an AC designation since the system size will be evaluated on the AC nameplate rating of the generating system. IPL suggests the following edit be made to all interconnection applications:

  Generation Facility Nameplate Rating (AC): (kW)__(kVA)__(AC Volts)____
- IPL suggest adding additional questions pertaining to the design of solar PV systems in order to better assess their capabilities, potential output, and distribution

system impact. This information is not normally accessible from a one-line diagram or plot plan. IPL suggests the following two information request fields be added to all interconnection applications:

Number of Inverters:__ Number of Panels:__ Tilt (deg):__ Azimuth(180º is South facing):__

Array Type: Fixed__ Single Axis___ Dual Axis___

Level 1

- In addition to the aforementioned suggestions, IPL suggests adding questions pertaining to the inverter based systems found in their entirety from the Level 2 Interconnection Application into the Level 1 Interconnection Application. IPL suggests the following be added to the Level 1 Interconnection Application :

Additional Information for Inverter-Based Facilities

Inverter Information:

Manufacturer:_____Model: _____
Type:____Forced Commutated_____Line Commutated
Rated Output:___Watts_____Volts
Efficiency:___% Power Factor:_____%
Inverter UL1741 Listed:___Yes_No

DC Source/Prime Mover

Rating:_____kW Rating:_____kVA
Rated Voltage:_____Volts
Open Circuit Voltage (if applicable):_____Volts
Rated Current:_____Amps
Short Circuit Current (if applicable):_____Amps

- IPL also suggests clarification for the Final Interconnection and Operation guidelines found in the Terms and Condition for Interconnection under a Level 1

Interconnection Application. IPL suggest the following redline addition be made to section 2. Final Interconnection and Operation:

d) Executed Certificate of Completion: The utility has signed, executed and transmitted to the interconnection customer the Certificate of Completion provided by the interconnection customer in 2 b).

Levels 2 to 4 Distributed Generation Interconnection Agreement

- IPL has seen a steady increase in Level 4 applications where anti-islanding measures are instituted. Interconnection customers state the difficulty acquiring certifications for anti-islanding that meet the Nationally Recognized Testing Laboratory (NRTL) as compliant with ANSI/IEEE Standard 1547; therefore, IPL is willing to review other third-party testing done on such equipment to meet said qualifications. The third-party testing must be comparable in scope and quality to that which would be performed by NRTL in order for IPL to consider accepting the third-party testing. In doing so, IPL will update its Attachment 4 to reflect this review; however, IPL suggests adding the following to the Interconnection Agreement:

1.10 Standards of Operations

The interconnection customer must obtain all certifications, permits, licenses, and approvals necessary to construct, operate, and maintain the facility and to perform its obligations under this Agreement. The interconnection customer is responsible for coordinating and synchronizing the distributed generation facility with the utility's system. The interconnection customer is responsible for any damage that is caused by the interconnect ion customer's failure to coordinate or synchronize the distributed generation facility with the electric distribution system. The

interconnection customer agrees to be primarily liable for any damages resulting from the continued operation of the distributed generation facility after the utility ceases to energize the line section or upon utility re-energization of the line section to which the distributed generation facility is connected and still operating. In Attachment 4, the utility shall specify the shortest reclose time setting for its protection equipment that could affect the distributed generation facility. The utility shall notify the interconnection customer at least ten business days prior to adopting a faster reclose time on any automatic protective equipment, such as a circuit breaker or line recloser, that might affect the distributed generation facility.

Interconnection System Impact Study Agreement

- IPL above suggested in section 45.11(6)(a) to add language regarding affected system study in the Level 4 system impact study review. IPL suggested adding the following to the System Impact Study Agreement to capture the affected system time and cost to complete:

7. The interconnection system impact study, if required, shall be completed and the results transmitted to interconnection customer within 45 business days after this Agreement is signed by the Parties or the complete study deposit is received by the utility, whichever occurs later. If the interconnection customer's study request involves more than one point of interconnection and configuration, the time to complete the interconnection system impact study may be extended by the utility.

7.1 If an affected system study is required, the utility and affected system owner/operator shall provide a timeline and cost estimate for its completion

of the affected system study. The transmittal of the interconnection system impact study shall be extended to allow for incorporation of the affected system impact study upon its conclusion.

CONCLUSION

IPL appreciates the Board's and the Board Staff's efforts in amending these rules for ease and clarity. IPL submits its Statement of Position and Comments on the proposed rules in order to aid the Board in addressing any additional areas that may need refining and to promote clarification of certain provisions to support timely and accurate implementation and compliance.

WHEREFORE, Interstate Power and Light Company respectfully requests that the Iowa Utilities Board give due consideration to IPL's Statement of Position and Comments regarding the proposed rules related to the interconnection of distributed generation facilities.

DATED this 6th day of September, 2016.

Respectfully submitted,

INTERSTATE POWER AND LIGHT COMPANY

By: */s/ Samantha C. Norris*
Samantha C. Norris
Senior Attorney
Alliant Energy Corporate Services, Inc.
200 First Street S.E.
P.O. Box 351
Cedar Rapids, IA 52406-0351
Phone: (319) 786-4236
samanthanorris@alliantenergy.com